

# TORREYA

Vol. 32

November-December, 1932

No. 6

## Erigenia bulbosa and some associated and related plants in Alabama

ROLAND M. HARPER

The Umbelliferous genus *Erigenia* is represented by one known species, *E. bulbosa* (Mx.) Nutt., sometimes known as "harbinger of spring," because it is the earliest flowering Umbellifer in the eastern United States. The species was described (as *Sison bulbosum*) by Andre Michaux in 1803, from specimens collected by himself near Knoxville, Tennessee, about seven years before<sup>1</sup>; and it has since been found in most of the northeastern states, outside of New England. It was overlooked by Dr. A. W. Chapman in the first edition of his "Flora of the Southern United

<sup>1</sup> Michaux's journal (edited and published in the original French, with explanatory notes in English, by C. S. Sargent in 1889, and translated, with additional notes, by R. G. Thwaites in 1904) records that while on his way from Nashville to Knoxville, on March 3, 1796, he observed "le petit ombellifere bulbeux" (which he said he had noted some days previously, evidently nearer Nashville) along "Fleen's [Flynn's] Creeke," probably in what is now Jackson County, Tennessee, in the "Highland Rim" region just west of the Cumberland Plateau. The ground was covered with snow at the time. On the 11th of the same month he records finding it on steep rocks along the "Cumberland" (apparently a slip for Tennessee) River near Knoxville, where it was associated with *Saxifraga*, etc.; and that is probably where he collected the type specimen. The original description says of it: "Hab. ad rupes arduas, prope Knoxville. Martio, nivoso solo, florens."

Pursh in his North American Flora, 1814, re-named the plant *Hydrocotyle ambigua*, and located Knoxville in Kentucky. Nuttall, who established the genus *Erigenia*, based on Michaux's plant, in 1818, evidently had additional specimens, for he gives its distribution as "In shady soils, subject to inundation, . . . on the Ohio, Missouri, Tennessee, etc. . . . blooming often amidst the snow, about the 12th or 15th of March."

Torrey and Gray in 1840 said of it: Shady alluvial soils, Buffalo, New York! and western parts of Pennsylvania! and on the Ohio! Missouri and other rivers of the Western States." They overlooked Michaux's Tennessee localities, and that may explain why Chapman omitted it from the first edition of his Southern Flora in 1860. Several recent botanists have collected it in the vicinity of Knoxville, however.

States" (1860), but in the supplement to the second edition (1883) it is said to occur at the base of Lookout Mountain, Tennessee, and northward. Gattinger, in his "Flora of Tennessee" (1901), gives its distribution as "O.S.," meaning over the state; but that is doubtless an exaggeration.

In Britton and Brown's "Illustrated Flora" (1896) and Small's "Flora of the Southeastern United States" (1903), the range of *Erigenia* is said to extend southward to Alabama; but no Alabama stations are mentioned in Coulter and Rose's "Monograph of North American Umbelliferae" (1900), or in Mohr's "Plant Life of Alabama" (1901). Dr. Small informs me that his Alabama record is based on a specimen in the Torrey Herbarium labeled as follows:—"Vale of Ovoca, near Huntsville, Alab. Received from Mr. Wells of Princeton. Dec. 31, 1840." The "Vale of Ovoca" cannot now be identified, and nothing seems to be known of the collector; but Huntsville is in the northeastern part of the state, and there is a small village named Princeton in Jackson County, about 25 miles east-northeast of Huntsville, which may have been there in 1840.

There are mountains near Huntsville, with limestone slopes on which many interesting plants grow, and Princeton is in a valley with similar slopes, some of which ought to be a suitable habitat for *Erigenia*, which seems to prefer rich shady woods with neutral or slightly alkaline soils. The writer has visited Huntsville a few times, beginning in March, 1906, and explored some of the most promising mountain slopes; and passed through Princeton late in June, 1932, and explored the same valley about ten miles farther up, without finding any trace of *Erigenia*. But it may be rather scarce in northeastern Alabama, or else none of the recent botanical explorers have been there at the right time to find it in bloom; and it is rather inconspicuous at other times. Most of the specimens cited by Coulter and Rose were collected in April or May, presumably in bloom; but it blooms about two months earlier than that in Alabama, and may wither away and disappear before midsummer, like several other spring-flowering plants.

On Feb. 16, 1906, I was walking along the railroad from Kellerman to Holt, in the Warrior coal field of Tuscaloosa County, Alabama. The rocks there are mostly shale, not perceptibly calcareous, but containing a good deal of potash, which

may be just as acceptable to plants as lime has been thought to be; and on the river bluffs near by, and in ravines between them, are many plants which are commonly regarded as lime-loving.<sup>2</sup> I have a distinct recollection of seeing somewhere along that route, probably on a shaly bluff, a plant that I took to be *Erigenia*. But I did not record it in my field notes, perhaps because I saw only one specimen and wanted to see more before making a record of it. And I could not take time to search for more, for I had 16 miles to walk that afternoon, and reached Holt less than ten minutes before the departure of the last car for Tuscaloosa.

On subsequent trips to the same general region I used to wonder why I could never find the plant again; and I did not list it in my account of the "botanical bonanza" in Tuscaloosa County, in 1922 (just cited). But nearly all my later trips were made between April and October, and I could easily have passed by the *Erigenia* in late spring or summer without seeing it.

However, conditions were more propitious on March 4, 1932, when I went with Dr. B. P. Kaufmann of the University of Alabama and a small party of his botany students to one of the shaly bluffs on the Warrior River about ten miles above Tuscaloosa or five miles above Holt, which is the best locality for *Croton alabamensis* and several other rarities listed in the paper just mentioned. In rich shady woods on the south side of the deep ravine that terminates that bluff on the north, on soil of weathered shale mixed with humus, I found several specimens of the *Erigenia* in bloom, thus concluding a quest that had extended intermittently over 26 years. (My 1906 locality, though not remembered exactly now, was some distance back from the river, in the valley of a creek that comes in a few miles above the *Croton* bluff.)

The find was of course made known to other members of the party, and Dr. Kaufmann, looking at the plants more closely than I usually do, soon called my attention to the fact that many of the flowers had three carpels, a character apparently unrecorded in the Umbelliferae. That is not necessarily an abnormality, but merely a variation that has been overlooked; and it might possibly be found to characterize the same species

<sup>2</sup> See Jour. Elisha Mitchell Sci. Soc. 37: 153-160. 1922.

elsewhere, and to be at least as common as four-leaved clovers, or the tri-carpellary walnuts that are occasionally reported.<sup>3</sup>

Among the immediate associates of the *Erigenia* there was *Trillium decumbens* Harbison,<sup>4</sup> originally described from DeKalb County, Alabama, which now proves to be rather common in the rich ravines above Tuscaloosa. I did not list that in my 1922 paper, though I must have seen it before that time, and perhaps mistook it for a *T. Underwoodii* that had been stepped on. Dr. Edgar T. Wherry, who has a very keen eye for rarities, pointed it out to me on a visit to the same bluffs on April 7, 1922, and it seems to be a perfectly distinct species. *Erythronium americanum*, which is seldom seen farther south, was abundant there, but very few of the specimens seem to bloom at any one time. Other associated plants were *Trillium lanceolatum*, *Dentaria laciniata*, *Saxifraga virginensis*, *Aesculus Pavia*, and *Adelia ligustrina*, all in bloom except the last.

About six weeks later, on April 14, I was exploring another rich ravine about two miles down the river from the locality just mentioned, and found *Erigenia* again, this time with fruit apparently full grown, though not quite ripe; and I collected a few specimens. Among its associates there (mentioning only the generic name where there is only one species in Alabama) were *Liquidambar*, *Fagus*, *Aesculus Pavia*, *A. parviflora*, *Cercis*, *Ranunculus allegheniensis* (?), *Saxifraga virginensis*, *Phlox divaricata*, *Nemophila*, *Galium Aparine* (apparently native), *Dodecatheon Hugeri*, *Syndesmon*, and *Isopyrum*; with many other interesting plants farther up the same ravine and in neighboring ones, most of them in bloom at the time, making a wonderful display of spring flowers.

After the trees leaf out and Nature's great spring flower show is over, the botanist's enthusiasm is apt to wane a little. I had made very few visits to the Warrior River bluffs in summer, but on June 22 of this year I thought I would try to find out what *Erigenia* looked like at that season. This time I found none of

<sup>3</sup> Two similar instances in other genera may be worth mentioning here. In 1904 (Bull. Torrey Club 31: 23) I reported *Chrysobalanus oblongifolius* in Coffee County, Georgia, with two or three carpels, although one is the normal number for that family (Drupaceae). *Saxifraga* is supposed to have two carpels, but in April, 1923, I found three to be the usual number in *S. texensis* on the Grand Prairie and a few other prairies in Arkansas.

<sup>4</sup> Biltmore Bot. Stud. 1: 158. 1902.

it, but in the same ravine visited in April, or one very close to it, I found a considerable quantity of another Umbellifer, that I had never seen outside of the coastal plain before, namely, *Trepocarpus Aethusae* Nutt., in bloom. That is a fairly common plant in rich calcareous bottoms in the black prairie belt of central Alabama, but its occurrence in a ravine among the rocky hills was rather unexpected. However, I had already noted that several plants have their southern limits in this region, and others their northern or inland limits, and these two Umbelliferae make another such pair, *Erigenia* from the north and *Trepocarpus* from the south.

One other Umbelliferous plant deserves mention here. It is not an associate of *Erigenia* in any sense, but I saw a great deal of it in June in the neighborhood where the first Alabama specimen of *Erigenia* came from. It is *Daucus Carota* L., an introduced weed of European origin. It is common in the north-eastern states, especially in regions that have been cultivated 25 years or more,<sup>5</sup> and as far south as the northern third of Georgia. It is not known in the coastal plain of Georgia, and in traveling northward through the coastal plain from Georgia to New York in July, 1909, I did not see it south of Elizabeth City, N. C., though it was common nearly everywhere north of there.<sup>6</sup>

Strange to say, the only Alabama station for it recorded by Dr. Mohr is on ballast near Mobile, and it may not have persisted there, for that is far out of its normal range.<sup>7</sup> Dr. Mohr of course visited Huntsville, on account of the many things of botanical interest there, but must have done so only in spring, for if he had ever been there in summer he could hardly have failed to notice that *Daucus Carota* is one of the commonest roadside weeds around there. In Alabama it seems to be pretty well confined to a rather small area in the northeastern corner of the state, though. On June 17, 1921, traveling southwestward from Rome, Georgia, on the railroad toward Selma, Ala., I saw plenty of the *Daucus* as far as the state line, but little or

<sup>5</sup> See L. H. Dewey, Yearbook U. S. Dept. Agric. 1896: 280, 282, 1897.

<sup>6</sup> See Bull. Torrey Club 37: 595. Jan. 1911.

<sup>7</sup> A remarkable outlying station for it, reported by George V. Nash (Jour. N. Y. Bot. Gard. 6: 180. Nov. 1905) is in fields near Marmelade, Haiti, about 2750 feet above sea-level. There it is doubtless a relic of the French plantations of the 18th century.

none beyond there. Going over the same route six years later I saw more of it, almost as far south as Anniston, Ala., but mostly in and around towns. Going up to Huntsville in June, 1932, I saw some of it along the railroad a mile or so north of Garden City, in Cullman County, but hardly any more until within a few miles of Huntsville, where it is about as common as it is anywhere in the North, and has been for ten years at least. Traveling by train from Birmingham to New York on Aug. 10, 1932, I first noticed it near Porterville, in DeKalb County, Alabama; and it became increasingly frequent from there northeastward, but mostly in and near towns at first.

UNIVERSITY, ALA.